

Application No. 10/595,232
March 24, 2009
Reply to the Office Action dated October 6, 2008
Page 2 of 14

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-9 (canceled).

Claim 10 (currently amended): A lamination-type resistance element comprising:
a laminated sinter having a plurality of ceramic resistance layers and a plurality of internal electrodes laminated therein; and
a first external electrode and a second external electrode provided on the outer surface of the laminated sinter; wherein
the plurality of internal electrodes includes a plurality of internal electrodes of a first group and a plurality of internal electrodes of a second group;
each of the plurality of internal electrodes of the first group includes a resistance unit in which at least two internal electrodes are disposed so as to face each other through one of the ceramic resistance layers, a first end of the resistance unit is electrically connected to the first external electrode, and a second end is electrically connected to the second external electrode;
each of the internal electrodes of the second group includes a plurality of pairs of internal electrodes in which a first end of one electrode faces a first end of the other electrode with a gap therebetween on the same plane inside the laminated sinter, one internal electrode in each pair is electrically connected to the first external electrode, and the other is electrically connected to the second external electrode; and
the gaps between the first ends of each of the plurality of pairs of internal electrodes of the second group overlap with each other in a lamination direction of the laminated sinter.

Application No. 10/595,232
March 24, 2009
Reply to the Office Action dated October 6, 2008
Page 3 of 14

Claim 11 (canceled).

Claim 12 (original): The lamination-type resistance element as claimed in claim 10, wherein each of the internal electrodes of the first group includes a first divided internal electrode electrically connected to the first external electrode and a second divided internal electrode electrically connected to the second external electrode, and a first end of the first divided internal electrode and a first end of the second divided internal electrode face each other with a gap therebetween on the same plane.

Claim 13 (currently amended): The lamination-type resistance element as claimed in claim 12, wherein a topmost the gap between the first end of the first divided internal electrode and the first end of the second divided internal electrode of the first group that is arranged closest to the second group overlaps, in the lamination direction of the laminated sinter, is aligned with a bottommost the gap between the first ends of the pair of internal electrodes of the second group that is arranged closest to the first group.

Claim 14 (original): The lamination-type resistance element as claimed in claim 12, wherein a plurality of pairs of first and second divided internal electrodes is laminated and the gaps in neighboring pairs of electrodes in the lamination direction are arranged at different locations when seen from one side in the lamination direction.

Claim 15 (original): The lamination-type resistance element as claimed in claim 12, wherein the first group includes a no-connection-type internal electrode disposed on top of the first and second divided internal electrodes through a ceramic resistance layer.

Claim 16 (original): The lamination-type resistance element as claimed in claim

March 24, 2009

Reply to the Office Action dated October 6, 2008

Page 4 of 14

10, wherein each of the internal electrodes of the first group each includes a first internal electrode electrically connected to the first external electrode and a second internal electrode electrically connected to the second external electrode, and the first and second internal electrodes are disposed so as to lie on top of one another with a ceramic layer disposed therebetween.

Claim 17 (currently amended): A lamination-type resistance element comprising:
a laminated sinter having a plurality of ceramic resistance layers and a plurality of internal electrodes laminated therein; and
a first external electrode and a second external electrode provided on the outer surface of the laminated sinter; wherein
the internal electrodes include internal electrodes of a first group and internal electrodes of a second group;
each of the internal electrodes of the first group includes a first internal electrode and a second internal electrode in which a first end of ~~one-the~~ the first internal electrode is arranged so as to face a first end of the other ~~other-~~ second internal electrode with a gap therebetween on the same plane inside the laminated sinter and ~~the~~ the second ends of the first and second internal electrodes are connected to the first external electrode and the second external electrode, respectively, and neighboring gaps between the first and second internal electrodes in ~~the-a~~ lamination direction of the laminated sinter are arranged at different locations when seen from the lamination direction of the laminated sinter; and
each of the internal electrodes of the second group includes a third internal electrode and a fourth internal electrode in which a first end of the third internal electrode faces a first end of the fourth internal electrode other with a gap therebetween on the same plane inside the laminated sinter, and second ends are connected to the first external electrode and the second external electrode, respectively, and the gaps between the third internal electrodes and fourth internal electrodes are at the same location along the lamination direction of the laminated sinter and

the gap between the first end of the first internal electrode and the first end of the second internal electrode that is arranged closest to the second group overlaps, in the lamination direction of the laminated sinter, with the gap between the first ends of the third internal electrode and the fourth internal electrode that is arranged closest to the first group.

Claim 18 (currently amended): A lamination-type resistance element comprising:
a laminated sinter having a plurality of ceramic resistance layers and a plurality of internal electrodes laminated therein; and
a first external electrode and a second external electrode provided on the outer surface of the laminated sinter; wherein

the internal electrodes include internal electrodes of a first group and internal electrodes of a second group;

each of the internal electrodes of the first group includes a first internal electrode and a second internal electrode in which a first end of the first internal electrode is arranged so as to face a first end of the second internal electrode with a gap therebetween on the same plane inside the laminated sinter, and second ends are connected to the first external electrode and the second external electrode, respectively, and a no-connection-type internal electrode which is arranged so as to lie on top of the first internal electrode and the second internal electrode through the ceramic resistance layer in ~~the~~^a lamination direction of the laminated sinter and which is not connected to the first and second external electrodes; and

each of the internal electrodes of the second group includes a third internal electrode and a fourth internal electrode in which a first end of the third internal electrode faces a first end of the fourth internal electrode with a gap therebetween on the same plane inside the laminated sinter, and second ends are connected to the first external electrode and the second external electrode, respectively, and the gaps between the third internal electrodes and fourth internal electrodes are at the same location along the lamination direction of the laminated sinter; and

March 24, 2009

Reply to the Office Action dated October 6, 2008

Page 6 of 14

the gap between the first end of the first internal electrode and the first end of the second internal electrode that is arranged closest to the second group overlaps, in the lamination direction of the laminated sinter, with the gap between the first ends of the third internal electrode and the fourth internal electrode that is arranged closest to the first group.

Claim 19 (currently amended): A lamination-type resistance element comprising:
a laminated sinter having a plurality of ceramic resistance layers and a plurality of internal electrodes laminated therein; and

a first external electrode and a second external electrode provided on the outer surface of the laminated sinter; wherein

the internal electrodes include internal electrodes of a first group and internal electrodes of a second group;

each of the internal electrodes of the first group includes a first internal electrode connected to the first external electrode and a second internal electrode connected to the second external electrode which face each other through the ceramic resistance layer; and

each of the internal electrodes of the second group includes a third internal electrode and a fourth internal electrode in which a first end of third internal electrode faces a first end of the fourth internal electrode with a gap therebetween on the same plane inside the laminated sinter, and second ends are connected to the first external electrode and the second external electrode, respectively, and the gaps between the third internal electrodes and fourth internal electrodes are at the same location along the a lamination direction of the laminated sinter; and

an end of the internal electrode of the first group that is arranged closest to the second group overlaps, in the lamination direction of the laminated sinter, with the first end of one of the third and fourth internal electrodes that is arranged closest to the first group.

Application No. 10/595,232
March 24, 2009
Reply to the Office Action dated October 6, 2008
Page 7 of 14

Claim 20 (new): The lamination-type resistance element as claimed in claim 19, wherein the gaps between the first ends of each of the plurality of pairs of internal electrodes of the second group overlap with each other in the lamination direction in the laminated sinter.